

Assessment of clinical diagnosis, age and gender differences of elderly patients applying to dermatology clinic of a secondary health institute in family medicine aspect.

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Abstract

Occurrence of dermatological diseases can be affected by multiple factors. These factors are personal factors such as race, age, gender, heredity, personal hygiene, socioeconomic degree and environmental factors like climate, geographic region, rural or urban settling and profession. Treatments of dermatological diseases which rank amongst first five common diseases according to the data of World Health Organization are mostly treated by physicians who are not dermatology specialists. In this study, clinical diagnosis, age, gender and seasonal differences of patients admitted to dermatology clinic of a secondary health centre are investigated. Most common 10 disease groups are identified. The most common group of dermatological diseases (25.9%), i.e. papulosquamous and eczematous dermatoses, was seen in 1328 patients. The second most common group of dermatological diseases (25%), i.e. infections and infestations, was seen in 1282 patients. The findings related to this series of cases are, in general terms, consistent with the findings of other retrospective studies. Early diagnosis and treatment is possible for most of the diseases in elderly patients.

Keywords: Dermatology, Clinical diagnosis, Age, Gender, Season.

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Introduction

Skin is the largest organ of the body. The mortality rate is quite lower in skin diseases when compared to many other diseases. However, complaints related to skin are frequently encountered. That is why physicians providing primary healthcare services are required to diagnose and treat properly several disorders and diseases related to skin and its appendages [1].

The admittance rate of the patients with dermatological increases in primary healthcare services. The rate changes, depending on regions, countries and age group of patients [2-4]. Geriatric patients constitute a special group of patients since both skin diseases and chronic systemic diseases are more common in this group [5].

The prevalence of skin disorders is quite high in geriatric patients and skin diseases are the one of the factors which affects quality of life. The incidence and type of the skin diseases should be known in order to plan educations in this area [6]. The aim of this study is to carry out a retrospective analysis of the breakdown of geriatric diagnoses in geriatric patients aged 65 and over, who presented to the dermatology clinics of a secondary healthcare institution.

Material and Methods

This study is based on the retrospective analysis of the electronic records of patients aged 65 and over, who presented to the dermatology clinics of a secondary healthcare institution between January 1, 2013 and December 31, 2013. For the purpose of this study, the patients' clinical diagnoses, age, gender and date of presentation to the hospital were recorded in an electronic database. There were 353 different diagnoses. These diagnoses were then classified into ten groups of clinical diagnosis. Bologna Dermatology was used as a reference in the classification of diagnoses. The diagnosis groups are provided in Table 1 in the order of frequency.

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Statistical analysis

IBM SPSS-21.0 was used for statistical analyses. The chi-square test was used to test the relationship between categorical variables. The Shapiro-Wilk test was used to test the distribution of continuous variables, and Kruskal-Wallis test was used to compare independent groups. Categorical

variables are presented in the form of frequency and percentage, and continuous variables in the form of median (Q1-Q3). The results were accepted statistically significant if $p < 0.05$.

Table 1. Clinical diagnosis groups.

1	Papulosquamous and eczematous dermatoses
2	Infections, infestations
3	Pruritus
4	Neoplasms of the skin
5	Disorders due to physical agents
6	Urticarias, erythemas and purpuras
7	Hair, nails and mucous membranes
8	Adnexal diseases
9	Pigmentary disorders
10	Keratinization disorders

Results

This study is based on data from 63.231 patients that presented to the healthcare institution between January 1, 2013 and December 31, 2013. In this group, 38.569 patients (61%) were female and 24.662 patients (39%) were male.

Among the patients aged 65 and over, 5210 (53%) were female and 2408 (47%) were male. The women/men ratio was 0.88. The number of patients aged between 65 and 74 was 3209 (62.7%), between 75 and 84 was 1560 (30.4%), and aged 85 and over was 351 (6.9%). The average age of patients was 73.2 ± 6.5 . The distribution of age groups by gender is provided in Table 2. The dermatological diseases were classified into ten groups for the purpose of this study. The frequency of these dermatological disorder groups is summarized in Table 2. The most common group of dermatological diseases (25.9%), i.e. papulosquamous and eczematous dermatoses, was seen in 1328 patients. The second most common group of dermatological diseases (25%), i.e. infections and infestations, was seen in 1282 patients. Pruritus, seen in 802 patients, was the third most common disease with a rate of 15.6%. The total frequency of neoplasms of the skin-the fourth most common group of diseases, was 12.1% (623 patients). This was followed by diseases due to physical agents with a rate of 4.5% (233 patients). The sixth most common group comprises urticarias, erythemas and purpuras with a rate of 4.3% seen in 222 patients as shown in Table 3.

With regard to the breakdown of disease groups by gender, we found that the most common diseases in women were papulosquamous and eczematous dermatoses (24.2%), infections and infestations (22.3%), pruritus (15.7%), neoplasms of the skin (14.2%) and urticarias, erythemas and

purpuras (5.2%) while the most common diseases in men were infections and infestations (28.1%), papulosquamous and eczematous dermatoses (27.8%), pruritus (15.5%) and neoplasms of the skin (9.8%).

Table 2. Distribution of age groups by gender.

Gender	Aged between 65-74		Aged between 75-84		Aged 85 and over		Total	
	n	%	n	%	n	%	n	%
Women	1765	65.1	776	28.6	171	6.3	2712	100
Men	1444	60	784	32.5	180	7.5	2408	100
Total	3209	62.7	1560	30.4	351	6.9	5120	100

Discussion

Geriatric patients constitute a special group within dermatological patients since they are commonly diagnosed with both skin diseases and systemic diseases [1]. Patients aged 65 and over are considered as the geriatric group of patients. In geriatric patients, there may be diagnostic challenges because of the long-term damage of particularly ultraviolet on the skin and changing nature of dermatoses due to the increase in the incidence of xerosis, immunosuppression, circulatory disorders and systemic diseases [1-3,7].

Normal aging process causes atrophy, loss of elasticity, and impaired metabolic and repair response in skin. Epidermis gets thinner, dermoepidermal junction becomes flattened, and the skin becomes more fragile. The cellular distribution of the skin changes, and vitamin D synthesis and sensory function reduce, causing a decrease in xerosis and barrier function [8-10]. Another problem in aging skin is photo aging, which makes the skin look leathery, pale and rough. The skin shows higher tendency towards telangiectasia, and suffers from hyperpigmentation and hypopigmentation [8-13].

According to the results of this study, papulosquamous and eczematous dermatoses, detected in 1328 patients, were the most common group of dermatological diseases (25.9%). The frequency of papulosquamous lesions increases with age, and the frequency of pemphigus vulgaris increases particularly after the age of 50. Our research suggests that papulosquamous lesions are among the three most common dermatological diagnoses. Early diagnosis of such lesions is important as they may be lethal. Some of these lesions are associated with

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chronic diseases and thus underlying conditions such as heart and kidney failure should be sought [14-16].

Table 3. Distribution of clinical diagnoses according to ages.

Clinical diagnoses	Age groups							
	65-74		75-84		>85		Total	
	n	%	n	%	n	%	n	%
Papulosquamous and eczematous dermatoses	894	67.3	367	27.6	67	5.1	1328	25.9
Infections. Infestations	822	64.1	369	28.8	91	7.1	1282	25.1
Pruritus	416	51.9	293	36.5	93	11.6	802	15.6
Neoplasms of the skin	344	55.2	231	37.1	48	7.7	623	12.2
Disorders due to physical agents	142	60.9	76	32.7	15	6.4	233	4.5
Urticarias, erythemas and purpuras	160	72.1	56	25.2	6	2.7	222	4.4
Hair, nails and mucous membranes	111	62	59	33	9	5	179	3.5
Adnexal diseases	113	80.2	24	17	4	2.8	141	2.8
Pigmentary disorders	33	66	15	30	2	4	50	0.9
Keratinization disorders	23	60.6	14	36.8	1	2.6	38	0.7
Other diseases	151	68	56	25.2	15	6.8	222	4.4
Total	3209	62.6	1560	30.5	351	6.9	5120	100

Infections and infestations were the second most common group of dermatological diseases with a rate of 25% among our patients (seen in 1282 patients). Infections are skin disorders frequently observed in elder patients. The risk of infectious diseases increases in geriatric patients because of neurological deficits, difficulty in ensuring routine hygienic care, neuropathy, diabetes mellitus, aging of immune system functions and increase in chronic diseases [17-19].

Superficial mycotic infections are common among such patients [2]. The incidence rate of superficial mycotic infections of the foot is reported to be up to 80% [2,7,20]. The present study also shows that the rate of superficial mycotic infections was quite high within the group of geriatric skin infections.

Pruritus (seen in 802 patients) was the third most common group of dermatological diseases with a rate of 15.6%. Pruritus is generally the second or third most common skin disorders in elderly patients and is generally benign. Underlying chronic causes should first be excluded in the presence of pruritus. In the present series of cases, it is considered that chronic causes were excluded and that these patients had benign pruritus [21].

Neoplasm of the skin (seen in 623 patients) was the fourth most common group of dermatological diseases with the rate of 12.1%. Skin cancers, apart from malign melanoma, have been quite common among elderly patients. The factors that play a role in the development of these lesions are exposure to sunlight, changes in the immune system due to aging and genetic factors [7,20]. In the present study, neoplasms of the

skin held the fourth rank among the most common dermatological problems.

In brief, aging changes in the skin occur both because of the natural aging process and with the effect of environmental factors. The findings related to this series of cases are, in general terms, consistent with the findings of other retrospective studies. Early diagnosis and treatment is possible for most of the diseases in elderly patients. For instance, training programs on personal hygiene may be offered to prevent infections, and routine examinations would be enough to diagnose such disorders. It is possible to ensure early diagnosis of neoplasms of the skin by explaining appropriate ways of screening to individuals and their care providers. Although skin infection was found to be the most common dermatological disorder in many studies, it was the second most common disease in the present study. This is probably because the study was conducted in a secondary healthcare institution, and such lesions are often diagnosed and treated in primary healthcare institutions. The main limitations of this study are that it was based on a retrospective research design. The data collected in this study are of particular importance as they serve as a reference for planning after-graduation training programs on up-to-date approaches for physicians in primary and secondary healthcare institutions.

References

1. Chu DH. Development and structure of skin. Fitzpatrick's Dermatology in General Medicine. Acc Med 2008; 57-73.

2. Mevsim V. Epidemiology and Burden of Skin Diseases-The Importance in Primary Care. *Turkiye Klinikleri J Fam* 2010; 1: 15-20.
3. Mahé A, Faye O, Diaye HT, Konaré HD, Coulibaly I, Kéita S, Traoré AK, Hay RJ. Integration of basic dermatological care into primary health care services in Mali. *Bull World Health Organ* 2005;83: 935-941.
4. Al-Hoqail IA, Gad A, Crawford RI. Dermatology practice in primary health care services: where do we stand in the Middle East? *Int J Dermatol* 2002; 41: 4-7.
5. Badame AJ. Incidence of skin diseases in rural Jamaica. *Int J Dermatol* 1988; 27: 109-111.
6. Na CR, Wang S, Kirsner RS, Federman DG. Elderly adults and skin disorders: common problems for nondermatologists. *South Med J* 2012; 105: 600-606.
7. Wey SJ, Chen DY. Common cutaneous disorders in the elderly. *J Clin Gerontol Geri* 2010; 1: 36-41.
8. Verhoeven EW, Kraaimaat FW, van Weel C. Skin diseases in family medicine: prevalence and health care use. *Ann Fam Med* 2008; 6: 349-354.
9. Cerimele D, Celleno L, Serri F. Physiological changes in ageing skin. *Br J Dermatol* 1990; 122: 13-20.
10. Zouboulis CC, Makrantonaki E. Clinical aspects and molecular diagnostics of skin aging. *Clin Dermatol* 2011; 29: 3-14.
11. Humbert P, Dréno B, Krutmann J. Recommendations for managing cutaneous disorders associated with advancing age. *Clin Interv Aging* 2016; 11: 141-148.
12. Griffiths CE. The role of retinoids in the prevention and repair of aged and photoaged skin. *Clin Exp Dermatol* 200; 26: 613-618.
13. Holick MF, Matsuoka LY, Wortsman J. Age, vitamin D, and solar ultraviolet. *Lancet* 1989; 2: 1104-1105.
14. Gruber R, Koch H, Doll BA, Tegtmeier F, Einhorn TA, Hollinger JO. Fracture healing in the elderly patient. *Exp Gerontol* 2004; 41: 1080-1093.
15. Budimir J, Mihić LL, Situm M, Bulat V, Persić S, Tomljanović-Veselski M. Oral lesions in patients with pemphigus vulgaris and bullous pemphigoid. *Acta Clin Croat* 2008; 47: 13-18.
16. Zhu X, Pan J, Yu Z, Wang Y, Cai L, Zheng S. Epidemiology of pemphigus vulgaris in the Northeast China: a 10-year retrospective study. *J Dermatol* 2014; 41: 70-75.
17. Scheinfeld NS. Skin disorders in older adults: Pap squ bul dis 2011; 51.
18. Lowell BA, Froelich CW, Federman DG, Kirsner RS. Dermatology in primary care: Prevalence and patient disposition. *J Am Acad Dermatol* 2001; 45: 250-255.
19. Hilete M. Skin diseases seen in Kazanchis health center. *Ethiop Med J* 1998; 36: 245-254.
20. Özcan A, Senol M, Bayram N, Akı T, Sağlam H, Çıkım AÇ. The evaluation of dermatological diseases in primary health care centers. *T Klin Dermatol* 2005; 15: 129-135.
21. Kılınç I, Ünal İ, Ceyalan C, Özdemir F. Skin lesions among geriatric patients. *Turkish J Geri* 2002; 5: 103-106.
22. Özyurt K, Avcı A, Çınar SL, Silay E. Dermatological Disorders in Geriatric Patients. *Turk J Dermatol* 2014; 4: 206-209.

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